United Nations ECE/CES/2018/8

Economic and Social Council

Distr.: General
9 April 2018

Original: English

Economic Commission for Europe

Conference of European Statisticians
Sixty-sixth plenary session
Geneva, 18–20 June 2018
Item 4(g) of the provisional agenda
Reports, guidelines and recommendations prepared under the umbrella of the Conference: Exchange and sharing of economic data

Exchange and sharing of economic data

Note by the Task Force on exchange and sharing of economic data

Summary

The document informs the Conference of European Statisticians (CES) of the initial findings and progress of work of a Task Force aiming to advance exchange and sharing of economic data. The Task Force was set up by the CES Bureau in February 2017 as an outcome of an in-depth review of this topic. The CES plenary session discussed exchange and sharing of economic data in June 2017, and asked the Task Force to report back early in its mandate to share its first findings.

The current note provides background information for the work (Section I); objectives and work plan of the Task Force (Section II); first findings of the Task Force (Section III) and a brief description of the planned next steps (Section IV). A more detailed progress report is given in document ECE/CES/BUR/2018/FEB/10 for the CES Bureau meeting (14-15 February 2018, Helsinki, Finland), available at: http://www.unece.org/index.php?id=47409.

The Conference will be invited to discuss the exchange and sharing of economic data and provide input for further work in this area.

GE.18-05488(E)

1805488

Please recycle

I. Background

1. Many statistical offices are considering how to exchange data more effectively, especially on the large and complex multinational enterprises (MNEs). New data exchange mechanisms are needed, nationally and internationally, to enhance the quality, coherence and relevance of economic statistics and the efficiency of their production. Without a full picture of MNEs' activities, it is a challenge to ensure continued meaningful and correct measurement of global production and trade, and to understand the influence of MNEs on macro-economic and business statistics. There is an urgent need to analyse the risks and obstacles of data exchange and identify enablers that will lead to an increase in the sharing of economic data (including information on business structures) in statistical production.

2. The *Guide to Measuring Global Production*[1] (2015) identifies as a priority the need to develop new methods and sources for collecting and compiling statistics on the largest and most complex MNEs in a consistent and effective way. The Guide also notes the limits of national and international data sharing among producers of official statistics due to legal and confidentiality constraints, which in many cases seem to hamper the possibilities to improve the analysis of MNEs.

3. The 2015 and 2016 meetings of the joint UNECE/Eurostat/OECD Group of Experts on National Accounts recognized that data exchange is essential when looking for solutions to the challenges related to global production, and asked international organizations to consider ways to facilitate exchange and sharing of economic data. Countries emphasized the need for data confrontation and exchange between the producers of economic statistics within a country and between countries to enable proper data validation and improve quality, relevance and consistency of data across domains. Globalization requires statistical agencies to understand the significance of counterparty information to view both sides of the transaction. National circumstances, legal and technological challenges will need to be considered as well as possible risks, for example related to production processes of statistics, trust of respondents and the general public, and privacy issues.

4. In view of these developments, the Bureau of the Conference of European Statisticians (CES) carried out an in-depth review of the exchange and sharing of economic data in October 2016. As an outcome of the review, the Bureau emphasized that national and international data exchange is a prerequisite for statisticians to be able to depict economic reality, profile multinational enterprises and provide meaningful data on their activities. The Bureau stressed the urgent need to operationalize the exchange of data between national statistical offices (NSOs), and established a Task Force on exchange and sharing of economic data in February 2017 to facilitate progress in this area.

II. Objectives and work plan of the Task Force

5. According to its terms of reference (ECE/CES/BUR/2017/FEB/4[2]), the Task Force was established under the CES Steering Group on National Accounts for three years, until June 2020, after which it will submit a final report.

6. The Task Force will work in stages to share the results early in its mandate.

[1] https://www.unece.org/fileadmin/DAM/stats/publications/2015/Guide_to_Measuring_Global_Production__2015_.pdf

[2] http://www.unece.org/statistics/networks-of-experts/task-force-on-exchange-and-sharing-of-economic-data.html

7. At the first stage (until June 2018) the Task Force will analyse concrete examples of data exchange, and identify through these examples enablers and obstacles of data sharing and review the practical requirements of data exchange.

8. At the second stage (July 2018 – June 2020), the Task Force will develop guidance, tools and principles to facilitate the exchange of economic data. The guidance will also highlight innovative ways to exchange economic data to increase the quality, coherence and granularity of statistics and the ability to better analyse the activities of MNEs.

9. The Task Force based its work plan on the terms of reference (ECE/CES/BUR/2017/FEB/4/Rev.1), paragraph 11, points a) to c) and decided to split the first stage into four tasks when preparing the work plan as indicated below:

- Task A – Review concrete examples of useful data exchange (Lead: Finland);
- Task B – Identify enablers and obstacles and propose practical options (Lead: Canada);
- Task C1 – Find ways to describe MNEs and changes in their structures (Lead: United States);
- Task C2 – Large Cases Units in Statistical Institutes (Lead: Ireland).

10. Currently, the following countries and international organizations participate in the Task Force: Canada, Denmark, Finland (Chair), Italy, Ireland, Mexico, the Netherlands, United Kingdom, United States, European Central Bank (ECB), Eurostat, the International Monetary Fund (IMF), the Organisation for Economic Co-operation and Development (OECD), UNECE, the United Nations Statistics Division (UNSD) and World Trade Organization (WTO).

11. The Task Force involves experts on national accounts and balance of payments as well as business statistics, foreign trade and other related economic statistics. UNECE acts as Secretariat of the Task Force.

III. First findings of the Task Force

A. Need for data sharing

12. Traditionally, NSOs have relied on direct data collection from enterprises and individuals. There are certain evident benefits from direct data collection:

- Ability to determine the contents of data collection so that it suits the needs of statistical production and the users of statistics;
- Guaranteed confidentiality of the data collected for statistical purposes as the NSO can act as an independent, impartial and objective agency when collecting data directly;
- Good control over the quality of the data collected based on established methodologies and professional practices.

13. These traditional benefits are, however, being challenged by societal change, including:

- Public administrations are collecting lots of data to carry out their tasks. Often these data can be used for the compilation of official statistics. In areas where administrative data are similar to data collected by NSOs for statistical purposes,

important reductions in response burden can be achieved by making use of administrative data:

- Enterprises are digitalizing their administrative and other information management systems. These digitized systems are increasingly standardized, rigid and adapted for certain reporting purposes. To adapt enterprises' reporting systems to provide data that has been tailored to changing statistical needs is getting more difficult and expensive;
- The economies are globalizing and enterprises often operate as parts of global value chains. To compile reliable statistics based only on data from enterprises active in the country of the NSO is, therefore, getting more challenging;
- NSOs are typically operating under national jurisdiction and they have no legal rights to request data from entities operating outside the national border.

14. In many countries, NSOs face the general requirement that the data needed for public administration – including statistics – should only be collected once. Furthermore, statistics need to remain relevant in the conditions of globalized economy, and provide more detailed and timely information about changes in the economy. This calls for more data going beyond the national territory or being available outside the reach of the national NSO.

15. To summarize, there are both external factors that influence data exchange (e.g. digitalization in its different forms) and statistical needs to increase data exchange to ensure the relevance and the overall quality of official statistics. Therefore, NSOs rely more and more on the use of secondary data and, consequently, exchange more data with other institutions, both nationally and globally.

B. Current practices of statistical offices in data exchange

16. This section analyses the outcomes of the in-depth review of the exchange and sharing of economic data. The review was carried out in October 2016, based on a paper by Statistics Finland with inputs from a number of countries and organizations. The paper identified issues and problems and made recommendations on possible follow-up in areas where progress is achievable, including the need to develop coordination mechanisms, exchange experience, develop general guidance and principles for data exchange, and develop technological tools for this purpose. The review was largely based on a survey of country experiences which was carried out in all CES member countries. The following overview of existing practices at national and international levels is based on the in-depth review and survey replies. The 48 respondents included national statistical offices and entities of central banks that produce official statistics. The respondents are referred to as "offices" in the following text.

17. The survey covered the following main areas: the current scope of economic data exchange nationally and internationally; organizational aspects of data sharing; benefits and challenges experienced; possible international activities in support of national capacity development and other comments by countries.

18. In the survey, all offices indicated carrying out some data exchange at the national level, the most commonly receiving or sharing aggregated data with other producers of statistics. This takes place in over 80 per cent of offices that responded to the survey. For micro-data exchange, almost 80 per cent of offices receive data from other producers of statistics and three out of four offices receive micro-data from administrative sources.

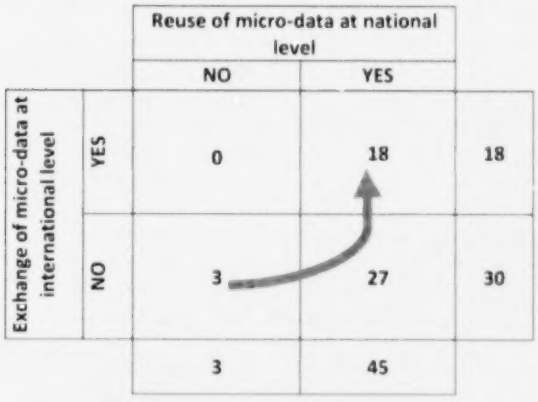
19. Half of the respondents receive micro-data from commercial sources; over half not only receive, but also provide micro-data to other producers of statistics and over two thirds provide micro-data for other purposes than statistical, for research.

20. Over 90 per cent of respondents have engaged in *international data exchange*. Typically, in more than 80 per cent, this international data exchange involved aggregated data. In fact, only one office in three engages in micro-data exchange.

21. Usually, data exchange takes place in statistics where cross-border transactions are recorded and the exchange aims at minimizing bilateral asymmetries between the same cross-border flows reported by different countries. The respondents emphasised that international data exchange may be facilitated by international organizations and based on bilateral or multilateral agreements between countries.

22. The survey revealed the increasing trend of micro-data sharing started 40 years ago when the first countries took steps towards the reuse of micro-data at national level. About 50 years ago, all countries were in the down-left corner, whereas currently only three offices out of 48 respondents remain there (Graph 1).

Graph 1
Trends in the exchange and reuse of micro-data



23. During the recent years, the reuse of micro-data has increased at national level and at international level the exchange of data is now increasing. Major factor here is the changed EU statistical law and Eurostat's SIMSTAT-project that enabled international micro-data sharing between statistical offices of the EU Member States in the domain of international trade in goods statistics. Now 18 offices of the respondents are in the up-right corner and this figure may increase in the near future.

24. However, *exchange of data on MNEs* is still relatively rare. Every fourth responding office has examined the activities of MNEs with other countries and every third office has examined MNEs within a country with other producers of official statistics. Some countries mentioned that they have benefitted from organizing MNEs' data collection through a specific large and complex enterprises unit (LCU).

C. Review of concrete examples of useful data exchange (Task A of the work plan)

25. The Task Force studied quite a few real data exchange cases and analysed the challenges and benefits experienced by participating offices (Task A of the work plan). At the same time, the Task Force also collected examples of agreements and Memoranda of Understanding that regulate data exchange. The Task Force will use these as a basis for developing tools and principles of data exchange in the second stage of work.

26. Before engaging in international data exchange on a larger scale, the first priority should be to improve national consistency of data on large MNEs across statistical domains. The Task Force has questioned whether it is possible to achieve coherent national data on large MNEs without any international data exchange. Having counterpart data helps to solve national consistency problems. Examples show clearly that international profiling has improved the understanding of national structures of MNEs. Based on practical experience, it seems that international profiling should at minimum cover the largest and most complex MNEs.

27. There are rules in place for national data sharing and even for international data sharing in the European Statistical System (ESS). Article 21 of the Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European statistics as well as Council Regulation (EC) No 2533/98 of 23 November 1998 concerning the collection of statistical information by the European Central Bank accommodate the possibility of transmission of confidential data both within the ESS and the ESCB. However, there are no frameworks for bilateral or multilateral data exchange between statistical producers beyond EU. At the same time, MNEs operate well beyond EU. Perhaps the rules and conditions for national data sharing could be applied to international data sharing.

28. The important question is, of course, what will be the reaction of large MNEs to the exchange of their data among the producers of official statistics. The results of the ESSnet project on International Profiling provide some light to this question. Practical experience shows that obtaining the required information from MNEs is difficult in some countries due to the sensitivity of information. However, there was also an example where the sensitivity was not considered a major issue. For some cases, the majority of this information was available in published accounts and, therefore, there were no resulting issues with the sensitivity of data. This example also illustrated that businesses demonstrate a cooperative attitude once they are convinced that the statistical office is applying strict rules on confidentiality through signed agreements, and that data will be used for statistical purposes only. In Mexico, for instance, the statistical office has to inform the respondents about how their information will be secured.

29. Better profiling of MNEs is needed to improve the quality of economic statistics. It requires a level of international data sharing not seen before. This can only be achieved if clear rules and processes are put in place. All practices need to be transparent and well explained to the enterprises whose data are shared.

30. Brief descriptions of MNE's data exchange cases which the Task Force has analysed so far are presented below. The examples are split in regular and one-off data exchange cases.

1. Examples of regular data exchange

31. Current examples of regular data sharing mainly relate to formal and pre-defined data exchange where data structures and data sharing processes are predefined.

32. The Memorandum of Understanding on the Exchange of Import Data between Canada and the United States is a great example of long lasting micro-data exchange. Since 1990 Statistics Canada and the United States Census Bureau have shared customs import transactions and used the data to compile official export statistics. The strength of the Memorandum of Understanding on the Exchange of Import Data between Canada and the United States lies in its simplicity. It is five pages in length and contains five articles and two annexes. The Memorandum could serve as a basis for developing a generic agreement for data exchange between two statistical authorities of different countries.

33. The majority of the challenges over the years have been of an operational nature. Each time, the agencies have been able to adjust and adapt to the situation. The overriding success factor was a highly collaborative approach, intensive consultations and a common understanding of the challenges.

34. The agreement has enhanced the quality of the trade statistics and reduced respondent burden in each country. It has also resulted in a number of additional benefits: openness with respect to data confrontation and joint analysis, launch pad for future data exchange in the area of foreign affiliate statistics and regional (North American) supply-use tables and leveraging international statistical conferences to engage in data confrontation activities.

35. The EuroGroup Register (EGR) is a unique statistical business register, covering MNE groups which are partially or fully active in the EU. In the annual EGR production cycles, national statistical offices deliver to EGR micro-data on legal units, relationships, enterprises and enterprise groups. The national data are complemented with commercial data. Based on these data, applying predefined preference rules and priority order the EGR creates the global structures of the multi-national enterprise groups. The final picture on MNE groups is distributed to statistics compilers in all EU Member States and EFTA countries. These coordinated populations can be used as the frame for compiling statistics related to multinational groups at national level.

36. The EGR ensures that the national statistics compilers have a harmonised picture on the enterprise groups' structures and characteristics when producing national statistics related to globalization as well as related to other national enterprise statistics, involving a consistent delineation of cross-border phenomena. This register stores the units being part of multinational enterprise groups, the unit identifiers, the relationships within the group and some economic characteristics (such as turnover or employment). EGR is only one of the sources of national statistics compilers when producing statistics related to globalisation. EU and EFTA statistical offices and Eurostat are continuously working on the EGR to make it more complete and improve its quality.

37. The European Parliament/European Council Regulation 177/2008 regulates the data exchange processes and the actual data that can be exchanged between national registers and the EGR. The Commission Regulation 192/2009 and Commission Regulation 1097/2010 complement the basic EP/Council Regulation with more detailed provisions.

38. In 2009, Eurostat and ECB established the "FDI Network" to address the problem of asymmetries in the area of Foreign Direct Investment (FDI) statistics. The FDI Network is a platform aimed at facilitating the secured exchange of data on individual (enterprise level) FDI transactions and positions (above a pre-defined threshold) between the national compilers of the EU Member States involved. Eurostat provides the technical infrastructure and resources to facilitate the data exchange and reconciliation. In the FDI Network system, the initiator Member State sends via Eurostat's secure data transmission channel a reconciliation request to the counterpart Member State. The FDI transactions are exchanged on an on-going basis as soon as they become available to the FDI compilers. All EU Member States are currently part of the FDI Network. It is a voluntary action, not regulated

by EU legislation. Recently there have been some discussions on possibilities to expand the network to countries outside EU, which according to Eurostat is not possible in the near future due to resource constraints. Nevertheless, Eurostat is prepared to share the expertise gained in running the FDI network for a possible setup of a similar network for non-EU countries.

39. In accordance with a Memorandum of Understanding, Eurostat and ECB regularly exchange data in the area of national accounts and balance of payments (BoP) and international investment position (IIP) data. The key variables of data exchange include the main EU aggregates, sectoral accounts and financial accounts, monthly and quarterly BoP data on BoP and IIP. The main benefit is to ensure consistency of data between quarterly and annual aggregates. It is of utmost importance that both Eurostat and the ECB publish consistent financial accounts and balance of payments data.

40. On the basis of another Memorandum of Understanding between Eurostat and ECB on the quality assurance of statistics underlying the Macroeconomic Imbalances Procedure (MIP), the ECB provides Eurostat with quality assured datasets accompanied by a brief metadata report explaining major events and revisions of the datasets. The data are compiled by different institutions in different countries (national statistical offices or national central banks). The exchange of data between Eurostat and the ECB ensures the consistency and thereby improves the quality of quarterly and annual aggregates. The biggest challenge in this respect is the timeliness.

41. The 2014 *OECD Expert Group for International Collaboration on Microdata Access: Final Report* (Chapter 7. *Case study: A circle of trust in Nordic countries*) provides an interesting case where micro-data access has been provided for statistical purposes only in the Scandinavian countries. The national statistical offices of Denmark, Norway and Sweden exchange identifiable personal data to facilitate the identification of commuters across borders for the joint production of regional workforce flows across the national borders. The chapter also describes legal considerations on the EU and national levels.

42. The Memorandum of Understanding on the exchange of information among national central credit registers (CCR) for the purpose of passing it on to reporting institutions may provide some useful ideas. The purpose of this MoU is to provide a framework that will allow reporting institutions to obtain a more complete overview of the indebtedness of a borrower by allowing information available in national CCRs to be supplemented with information from other CCRs operating in the EU. The data sharing on CCR's does not directly serve statistical purposes, but CCRs are also used for statistics. Also, the planned data exchange within AnaCredit system could be studied. The examples do not only deal with MNEs, but they are very encouraging.

43. There are various draft regulations that the European Commission has submitted to the Council and Parliament as a response to the BEPS initiative, calling for transparency in MNEs' tax declarations in the member states. One of these regulations is Directive 2016/881 of 25/5/2016 (to amend Directive 2011/16/EU), which foresees the "mandatory automatic exchange of information in the field of taxation" regarding MNEs.

44. The example of Mexico focuses on better use of administrative data and the linking of data from different sources (administrative, census, other surveys). Data exchange occurs both at macro and micro levels. Use of different units in different data sources is an important challenge in data linking. At international level, Canada, Mexico and United States are planning to exchange data for the extended supply and use tables.

45. International cooperation on macro-economic statistics under the umbrella of the Inter-Agency Group on Macro-Economic Statistics and the Data Gaps Initiative has recently taken a further step in making selected macro-economic indicators more coherent. One of the main features of the cooperation is the establishment of clear distribution of

responsibilities between international organisations. GDP and selected related macro-economic indicators are transmitted by national data providers to international organisations. A subset of these data is subsequently shared among the international organisations concerned through common Statistical Data and Metadata eXchange (SDMX) standards. Following national compilation, validation and transmission, data is further validated once by an international organisation chosen as primary validator. Data is then shared and finally published through the existing dissemination systems of all international organisations involved.

2. Examples of one-off data exchange

46. There are also examples of ad-hoc data exchange between countries, where the level of data confidentiality varies (public, semi-confidential, confidential). For example OECD and Eurostat have organised workshops for members to discuss bilaterally asymmetries related to foreign trade statistics. The IT plans to develop this part concerning small scale data exchange further using the concept note on ad-hoc data exchange (prepared by Finland). Eurostat's Early Warning System (EWS) is also related to this type of data exchange but without confidential data.

47. During the period April – September 2015 a wide scale exchange of micro-data on intra-EU trade in goods took place in the EU. Twenty Member States exchanged micro-data on their exports (at trader and product level) with the respective partner countries for the reference period January 2013 – August 2015. Special IT system together with secure communication network was put in place for this pilot exercise. The purpose was to investigate the statistical re-usability and quality of the exchanged data as well as the technical feasibility of exchanging large volume of datasets in a secure and timely manner on a monthly basis. The use of mirror data for compiling intra-EU imports statistics could thus reduce the administrative burden on reporters on the intra-EU imports side. In its May 2016 meeting, the ESS Committee discussed the results. Main benefits are a) reduction of reporting burden on business, b) improvement of data quality, c) reduction of asymmetries. Main challenges are a) dependence on data from other countries, b) timeliness and calendar of data exchange, c) ensure data confidentiality and data security for the data coming from other countries. The ESS Committee recommended making the exchange of micro-data on intra-EU exports compulsory between EU Member States. The draft Framework Regulation on Integrated Business Statistics (FRIBS), will introduce mandatory exchange of micro-data on intra-EU trade in goods among Member States, if and when adopted.

48. Improving the quality of Foreign Affiliates Statistics (FATS) by exchange of micro-data between Nordic countries is an interesting case of one-off data exchange. The national statistical offices of Norway, Denmark and Finland negotiated a confidentiality agreement on the use of micro-level FATS data. This exercise revealed both methodological differences to be discussed and practical problems related to data coverage of different countries. The results of this project prove that by working together and sharing data the quality of statistics could be notably improved.

49. The World Trade Organization (WTO) carried out a project to analyse bilateral trade asymmetries between Costa Rica and its main trade partners. The project led to the development of methodology to reduce asymmetries observed between Costa Rica's reported merchandise trade statistics and the values reported by its trading partners, using mirror data. This exercise took place within the OECD project to develop symmetrical trade matrices for the construction of the global Input-Output tables underlying the OECD-WTO Trade in Value Added (TiVA) database.

50. The testing of European Profiling demonstrated many potential improvements to data collected in the United Kingdom (UK). For example, analysis using annual accounts and data shared by NSOs revealed significant missing turnover. Of the 26 cases that ONS

profiled. 19 led to agreement from all parties involved, i.e. the Global Enterprise Group (GEG), users of statistics and partnering NSOs. For the majority of these, employment, turnover and NACE variables were collected at the new enterprise level. Once cooperation was established with GEG, most had no issues regarding sharing data securely with other NSOs. For some cases, the majority of information was available in published accounts. So, there were confidentiality issues. However, concerns were raised in a few cases, especially in the oil industry, and whenever additional detailed data was requested to what had already been published. Some of the key European groups could not be profiled during this testing period due to not getting buy-in from the groups and not having a legal framework in place. Some GEGs which had agreed to co-operate, subsequently informed NSOs that data sharing was not possible. This is a concern if profiling is to be successful for the largest and most important GEGs. Although ONS has visited groups for many years, more intensive profiling highlighted the benefits of meeting senior accountants face-to-face to strengthen relationships. Through visiting GEGs, ONS profilers learned about the specific organisational structures. They identified similarities in the way groups operating in specific industries are organised, i.e. the oil and gas and chemical sectors. GEGs gave positive feedback, acknowledging the potential benefits that European profiling could bring to them. For some burden would decrease, as the proposed structure aligns with their own financial accounts. This means faster survey completion and fewer questionnaires to complete. Some GEGs welcomed having one contact point within the NSO and some liked the possibility to report all data to one NSO. A few invited ONS to tap into their internal accounting systems to pick the required data (e.g. via an XBRL taxonomy).

51. Project on linking data on foreign-owned United States (U.S.) companies to domestic employment data indicates various related benefits and challenges. Enterprise level data are collected by Bureau of Economic Analysis (BEA) for statistics on activities of multinational enterprises (AMNE). Data on U.S. employment comes from several sources: Bureau of Labor Statistics (BLS), quarterly census of employment and wages, U.S. establishments covered in the unemployment insurance program, data collected by states and compiled by BLS. The process of linking is based on Employer Identification Numbers (EIN) and consists of computer match of EINs and manual work to link additional establishments to the enterprises. The benefits of data linking are: expanding the data available for studying effects of direct investment on the U.S. economy, improvement of survey data, greater frequency of data and potential to reduce respondent burden. The challenges are: very labour intensive, not timely, legal requirements and limitations.

3 Summary analysis of studied data exchange cases

52. Table 1 provides a summary of the studied data exchange cases with respect to two essential aspects: data sensitivity (aggregate level data or confidential micro-data) and purpose of use (for one-off study or for regular compilation of statistics). Table 2 summarises some key findings which enabled data exchange for different types of cases. One-off aggregate level data exchange seems quite easy to organise if there is a common interest between the parties. Regular data exchange of confidential micro-data in turn requires legislation or at least a lot of administrative and technical work and trust between the parties.

53. In addition to this analysis, Finland has prepared a guidance note concerning ad-hoc data exchange related to resolving bilateral data asymmetries and MNE restructuring cases.

Table 1
Summary of different types of data sharing examples

	One-off data exchanges	Regular data exchanges
Aggregate level data	- WTO trade asymmetries (case Costa Rica) - IMF workshops on FDI asymmetries	- Eurostat and ECB data exchange on NA, BOP and MIP data - Inter-Agency Group on Macro-Economic Statistics
Confidential micro-data	- Pilot exchange of micro-data on intra-EU trade - Nordic FATS statistics - Testing of European Profiling (UK) - Micro-data linking (e.g. linking data on foreign-owned U.S. companies to domestic employment data)	- Exchange of Import Data between Canada and the United States - EuroGroup Register (EGR) - FDI Network - Intra-EU trade in goods statistics - National central credit registers - OECD report on micro-data access

Table 2
Key prerequisites for successful data exchange

Type of data exchange	Key prerequisites for successful data exchange
One-off aggregate level data exchange	- Understanding the remarkability of making mirror comparisons to improve quality of national statistics - Availability of comparable data and metadata - Resources dedicated for this type of work
Regular aggregate level data exchange	…previous (see above) and - Identified need for regular data exchange - Willingness to compromises and to absorb costs - Mutual agreement between participants - Pre-Specified data structure - Automatic processes to manage mirror data
One-off confidential micro-data exchange	…previous and - Trust between participants - Agreement on use and storage of micro-data - Secured process for exchange
Regular confidential micro-data exchange	…previous and - Change of culture how to produce statistics - Common legislation and risk management - Secured and standardized process for data exchange

D. Enablers and obstacles of data exchange and possible practical solutions (Task B of the work plan)

54. NSOs are professional organizations that rely in their operations on internationally agreed statistical standards and recommendations, in particular the Fundamental Principles of Official Statistics and the related European Statistics Code of Practice. From the data exchange viewpoint, the most important Fundamental Principles are the following:

(a) Principle 2. To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data.

(b) Principle 5. Data for statistical purposes may be drawn from all types of sources, be they statistical surveys or administrative records. Statistical agencies are to choose the source with regard to quality, timeliness, costs and the burden on respondents.

(c) Principle 6. Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly con^{fi}dential and used exclusively for statistical purposes.

(d) Principle 10. Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

(e) Principles 5 and 10 can be considered as enablers of data exchange. Principle 5 gives NSOs a general mandate to the use of data collected by other organizations. Principle 10, in turn, urges NSOs to collaborate with each other to improve statistics globally.

(f) Principles 2 and 6, however, pose some challenges to be considered carefully in the context of data exchange between statistical organizations. The reasons are the following:

- When using secondary data, NSOs do not have the control of the methods and procedures of collecting and processing statistical data, when that part is carried out by another organization. However, the NSO shall retain professional independence in selecting the data sources to be used (principle 5), also in the choice between using administrative data or direct data collection.
- Also, the methodologies regarding the use of secondary data are far less developed than the methods for compiling statistics based on direct data collection.
- Confidentiality is a key concern when engaging in data exchange. While data collected for statistical purposes are to be strictly confidential and to be used exclusively for statistical purposes, some statistical laws allow the use of statistical data for scientific research when authorized by the NSO. In the European Union (EU), the European Statistical Law enables the exchange of individual data among NSOs and central banks in the EU, while some EU countries do not allow it in their national legislation. Some statistical offices provide their micro-data or other granular data for researchers in specially designed secure environments.
- Statistical legislation also typically treats data acquired by statistical offices from administrative data sources as confidential when acquired for statistical purposes. The same administrative data may not be confidential in the legal settings governing the activities of the public organization that collects them.
- Confidentiality of business information is also of concern to respondents. Close collaboration with respondents when extending data exchange for statistical purposes is, therefore, crucial.

1. Benefits and challenges of data sharing

55. The Task Force analysed the benefits and challenges reported in the survey of statistical offices for the analysis of obstacles and enablers of data sharing.

56. According to the survey of statistical offices, national legislation that regulates data sharing exists in 90 per cent of the countries, and a common business identifier is widely used, in more than three out of four countries. However, this does not mean that data sharing for statistical purposes would be well regulated or enabled. In some countries, data exchange is agreed and defined in statistical work programs. Data sharing agreements between administrative data providers and producers of official statistics are also very common.

57. Almost 90 per cent of surveyed countries reported that improved consistency is the main benefit of data sharing and over 80 per cent reported as a result better data quality, such as accuracy, relevance and timeliness. Efficiency gains and reduced response burden were pointed out in two thirds of the replies. Data sharing may also increase coverage of target population and enable a more detailed analysis and understanding of business activities. The increased collaboration and reuse of data helps to promote common standards and classifications.

58. The main difficulties linked to data sharing include heavy procedures to ensure confidentiality or increased risks of disclosing confidential data (mentioned by two thirds of respondents), limiting legal frameworks (mentioned by 60 per cent) and insufficient technological readiness (in almost half of offices). The possible decrease in respondents' trust is considered as a key risk by 15 per cent of offices. The other major issues that were mentioned include:

- increased dependency from other national statistical offices or administrative data providers
- problems in linking data in the international data sharing
- lack of resources dedicated to this type of work
- when using administrative data the legal unit is not always the same as the statistical unit for compiling statistics
- quality issues especially coverage and
- timeliness of external data sources and high investment costs

59. According to the respondents, no serious risks had materialized due to data exchange. Eleven offices reported that data exchange increased criticism about the quality of data and ten offices reported that data was misinterpreted. Very critical risks relating to the reputation of statistical office or respondents trust were less frequent (two observations each).

60. The respondents assessed the capacity of the office to carry out data exchange very positively. Only a few critical views were expressed. Staff's ability to analyse data received the highest ranking as 85 per cent of offices assessed the capacity as medium or high. Staff's skills in data mining and linking were not so highly ranked, as 75 per cent of responding offices assessed these skills as being at the medium or high level. The offices noted that further training will be needed.

61. In general, the international organizations play a key role in facilitating the sharing of best practices and provision of fora for discussions. Guidance and standardization issues are also important areas for international organizations' contribution. According to the country responses, the international activities that would facilitate data exchange include developing methodologies to ensure confidentiality (65 per cent), sharing technological

solutions and tools for data exchange (63 per cent) and developing general guidance for data exchange (56 per cent).

2. Ten aspects of data sharing and the related obstacles and enablers

62. To conceptualize the analysis further, the Task Force members shared their views on the key obstacles and enablers of the exchange and sharing of economic data in their office. These were summarized with the outcomes of the survey of statistical offices. Table 3 presents the outcome with ten different aspects that include elements that either prevent or facilitate data sharing.

63. As a next step, the Task Force prepared a separate note further elaborating and describing the obstacles and enablers and seeking possible solutions for dealing with the obstacles and considering the tools required to address the obstacles that will lead to a greater level of national and international data sharing.

E. Ways to describe MNEs and changes in their structures (Task C1 of the work plan)

64. The Task Force focused on this topic at its face-to-face meeting in April 2018. The meeting based on the analysis carried out, including a summary of types of MNEs that are most relevant for data exchange and a list of critical data items to be exchanged. The Task Force is developing the listing of critical data further along with a conceptual description of MNE structures.

65. The Task Force has identified that firms with the following characteristics should be the focus of data exchange:

- Complex ownership structures, especially including special purpose entities;
- Large amount of activity (e.g. employment or sales/turnover);
- Re-arrangements and relocations of MNEs;
- Global production arrangements;
- Ownership of intellectual property products.

66. Firms with these characteristics are difficult to measure, causing revisions to economic statistics and bilateral discrepancies. They may also have domestic impacts on employment, productivity, taxation, etc. that would be important to study and understand. Of course firms may fall into several of these categories, but this overlap would highlight the need to exchange the data.

67. Based on the first analysis, the Task Force decided to derive business cases starting from actual data exchange cases and will classify MNEs according to the ways they act globally. The Task Force will analyse the results of other task forces or groups to develop generalized examples of MNEs, for example:

- During the activities of the ESSnet on International Profiling, colleagues from INSEE collected examples from France, UK, Italy and the Netherlands of oil companies to show how the business lines organizations were quite similar;
- Intellectual property rights are under analyses in a specific task force;
- Digital economy MNEs are in the public eye not only for statistics;
- U.S. companies in Europe often adopt similar organizational structures.

Table 3
Obstacles and enablers of data sharing

Aspects	*Obstacles*	*Enablers*
Legal infrastructure	Too limiting confidentiality regulations	Review of confidentiality rules, practices and assumptions
	No legal framework allowing exchange of individual data for statistics	Establish the infrastructure to exchange information, e.g. legislation and agreements
	No access to data held by other authorities or private parties	Extend the mandate to access data existing in society
Resources	High costs and time needed to start data sharing	Higher efficiency and cost savings in data collection
	Lack of resources dedicated to data exchange and analysis	Shared solutions for data exchange
	Large technical investments needed	Dedicated resources for data exchange and analysis
Data linking	No common identifiers nationally or internationally	Developing common and unique identifiers
	Different data collection units, concepts and classifications	Extending application of harmonized units, concepts and classifications
	Scattered and unidentified sources of data	Mapped and linked datasets
Substantive	Difficulties to collect national data in the context of globalization	Meaningfulness of world level data
	Poor understanding of the data needed to capture global activities	Good understanding of critical data items
	Difficulties to capture MNEs' activities correctly	Better understanding of MNEs through profiling level data
Process	No Global Groups Register	Extending the idea introduced by the EuroGroups Register
	Production processes are not synchronized	Defined and agreed data exchange process
	Poor timeliness of data exchange	Timed data exchange in critical areas
Cultural	No buy-in from management of the statistical office	High-level commitment to data sharing
	Lack of trust between counterparts in data exchange	Close collaboration with counterparts in data exchange
	Lack of willingness among respondents	Shared evidence on reductions in response burden and quality improvements
Risks	Increased dependency from external data	Coping strategies for using multiple data sources
	Risks to respondent relations	Good communication and trust with respondents
	Risks to the image of official statistics	Risk management tools and enhanced communication
Uncertainties	Lack of information about data exchange options	International platforms for collaboration
	Lack of information about benefits	Examples of successful data exchange
	Uncertainty about impacts on the quality of statistics	Proven improvements in quality
Knowledge, skills and methods	Lack of necessary methodological knowledge	Well-developed methodologies for data linking
	Limited data mining skills	Well-developed data mining skills
	Lack of knowledge about resolving discrepancies	Practical examples of successful data reconciliation
Technical	Insecure environments of data exchange	Secure technology for data exchange
	Different data storage and exchange formats	Common data storage and exchange formats
	High computing capacity needed	High performing computing environment

68. Once the critical MNEs for data exchange have been identified, the Task Force will determine the data items that would be most useful to share. Needs may vary depending on the data sharing partners. The relevant arrangements are summarized as: 1) domestic microdata exchange among different institutions (responsible for different domains), and 2) international microdata exchange among NSOs of different countries and among NSOs and international institutions. The focus or needs of the institutions could be in some of the following categories:

- Register-type information, including identifiers;
- Structures of MNEs;
- Key globalization variables;
- MNE data most prone to revision;
- Financial/operations data, such as sales/turnover, employment, income;
- Accounting standards information.

F. Large and complex cases units (Task C2 of the work plan)

69. Organizational units, responsible for consistency analysis of MNEs in particular, are called large and complex enterprises units (LCU). The Task Force has prepared a separate note on LCUs as an approach for dealing with multi-national enterprise groups.

70. This work is based on the Chapter on LCUs of the *Guide to Measuring Global Production*. The conclusions of the Chapter note that collecting data from large and complex enterprises will demand an increasingly multidisciplinary approach. Survey managers, statisticians, informatics specialists, subject matter experts, respondent relationship managers and survey design specialists will need to work together to ensure availability and quality of data. The survey of statistical offices on LCUs, carried out by UNECE in 2013, highlighted the experience gathered so far. According to the survey, LCUs have improved cooperation with respondents, which ensures a better understanding of data requests and reduces response burden. At the same time, knowing the most important respondents helps statisticians solve inconsistencies more efficiently.

71. Even though the activities of LCUs vary across countries, they have provided a useful mechanism to support statisticians in dealing with MNEs across statistical domains. LCUs can also improve efficiency by promoting the use of common tools, drafting instructions for data collection and enhancing consistent treatment of large and complex enterprises' data. Moreover, when LCUs review MNEs' data they do that for various statistics whereas without LCUs this work would be done multiple times in various statistics leading to higher costs and lower consistency.

72. The Task Force will follow up on the recommendations of the *Guide to Measuring Global Production* and review the progress of countries and lessons learned from the actions to:

(a) Set up an LCU depending on countries' challenges with large respondents, the different structures of national economy and complexity of the business sector.

(b) Learn from other countries that have developed strategies for and gained experience in dealing with large and complex enterprises.

(c) Consider alternative ways to organizing work on large and complex enterprises at the NSOs.

(d) Develop cooperation mechanisms and collaboration among producers of statistics, both nationally and internationally.

73. To date several countries have organized the collection and/or consistency checking of some MNEs' data to specific organizational units focusing on large and complex enterprises. Currently, more countries are planning to establish similar units. Centralized management of MNEs' data may also support better documentation of data issues and a higher concentration of skills and knowledge on MNEs that facilitates national and international data exchange.

74. The CES plenary session agreed that establishing LCUs at national statistical offices is a prerequisite for having consistent data. The Conference expressed support for creating an international network of experts dealing with such enterprises' data.

75. Such a network would be useful for exchanging best practices in dealing with MNEs' data. The network could also facilitate identifying the critical MNEs for data exchange, carry out data exchange and analysis, and develop common ways for communicating with and approaching large and complex MNE respondents.

76. UNECE will review possibilities of establishing an international network of experts on large and complex enterprises to work alongside with the UNECE/Eurostat/OECD Group of Experts on National Accounts.

IV. Next steps

77. The Task Force will continue according to its work plan taking into account the feedback from different consultations in finalizing the output of the first stage and in setting priorities for further work. The output of the first stage will be a report, which defines enablers and obstacles to data sharing and suggests practical solutions and tools to be further developed.

78. At the second stage (until June 2020), the Task Force will continue the work as follows:

(a) Task D – Identify innovative ways to exchange of economic data (including granular data and information on business structures) on MNEs and on aggregated level.

(b) Task E – Based on concrete examples and sharing of experience, develop guidance, tools and principles for the exchange of data that would enable the NSOs to maintain the quality of national accounts, balance of payments and related economic statistics. Review the application of existing typologies for data sharing. The guidance should take into account confidentiality, respondents' trust and legal constraints, and consider:

(i) Data exchange on MNEs among producers of official statistics;

(ii) Access to the necessary external data sources, including administrative and private data sources;

(iii) Technical, methodological and communicational aspects of MNE data exchange;

(iv) Good practices in analysing MNEs' activities in official statistics.

79. The work has progressed according to the tentative timetable, and is planned to continue through the second stage of work as indicated in table 4.

Table 4
Tentative timetable

First stage (April 2017 – June 2018)	
Apr 2017	Launch the Task Force and confirm the participating countries and organizations.
Apr-May 2017	Agree on detailed work programme and division of work (possible meeting back-to-back with the Group of Experts on National Accounts).
Jun-Sept 2017	Review concrete examples where data exchange would help avoid asymmetries and misinterpretation (Task A).
Oct 2017- Jan 2018	Identify enablers and obstacles of data sharing (Task B) and find ways to detect the most relevant MNEs (Task C1).
Feb 2018	Presentation of the initial findings to the CES Bureau.
May-June 2018	Presentation of the first results and discussion at the 2018 Group of Experts on National Accounts to identify innovative practices.
Second stage (July 2018 – June 2020)	
Jul 2018-Mar 2019	Drafting the guidance with good practices. Consultation with other relevant Expert Groups.
May 2019	Discussion of the draft guidance and sharing of new innovative practices at the 2019 Group of Experts on National Accounts.
May-Aug 2019	Finalizing the guidance with good practices.
Sep 2019	Submit the report to the CES Bureau.
Oct-Dec 2019	Electronic consultation of the guidance among CES members.
Jan-Mar 2020	Finalize the report based on the feedback received.
Apr 2020	Submit the report to the CES plenary session for endorsement in June 2020.

80. The main output of the Task Force work will be *Guidance on National and International Exchange of Economic Data*. The 2019 Group of Experts on National Accounts will review and discuss the draft guidance especially to provide updates on new innovative practices. The updated draft Guidance is planned to be submitted to the CES Bureau in September 2019, and thereafter for electronic consultation among CES members.

V. Points for discussion

81. The Conference is invited to:

a) Express views on the work done so far;

b) Provide input for further work in this area.